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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,270	08/13/2001	M. Allen Northrup	22660-0009 C1	9986

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EXAMINER

MARSCHER, ARDIN H

ART UNIT	PAPER NUMBER
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1631

9

DATE MAILED: 06/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/929,270

Applicant(s)  
Northrup et al.

Examiner  
Ardin Marschel

Art Unit  
1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 2, 2003
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-78 is/are pending in the application.
- 4a) Of the above, claim(s) 1-12, 15-19, 30-43, 45-47, 58-61, 65-68, and 70-78 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13, 14, 20-25, 28, 29, 44, 48-51, 54-57, 64, and 69 is/are rejected.
- 7) ☒ Claim(s) 26, 27, 52, 53, 62, and 63 is/are objected to.
- 8) ☒ Claims 1-78 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Applicants' election without traverse of the Five Species listed as A(Devices without a side channel connected to the transition region), C(Devices without a heater for heating the reaction chamber), E(Devices without being in combination with an instrument with and designed for insertion of said device therein), H(Devices with electrodes or electrical separation such as isoelectric focusing), and A(Devices/combinations without sample component detection components) in Paper No. 8, filed 4/2/03 is acknowledged. Consideration of the claims which are directed to these species specifically and include them reveals that claims 28, 29, 54, 55, 62-64, and 69 are therefore elected.

It however is acknowledged that consideration of the above claims revealed that the above limiting set of species has not been taught or suggested in the prior art and therefore two specie election requirements are hereby withdrawn, that being the first and fifth specie election requirements in the Office action, mailed 2/27/03. Therefore, the only remaining specie election requirements are directed to the above listed species C, E, and H as elected by applicants. Therefore, claims 13, 14, 20-29, 44, 48-57, 62-64, and 69 are now under examination as being directed to species C, E, and H in combination.

#### PRIOR ART

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this

## Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

Claims 13, 14, 20-25, 28, 29, 44, 48-51, 54-57, 64, and 69 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Nelson et al. (P/N 6,074,827).

Nelson et al. is a description of microfluidic devices which contain various optional elements and primarily have an enrichment channel and a main electrophoretic flowpath as described in the abstract. Certain options may be selected to describe the instantly elected invention. The parts as listed in instant claim 13 are described in the reference. Figures 8-19 contains these parts in a variety of configurations as described starting in column 14, line 23. Pretreatment via chemicals is described in column 16, lines 29-38, as also required in instant

claim 13, a), i). The sample is described therein as being moved into the enrichment channel which contains a variety of possible enrichment elements including ligand binding elements as required in instant claim 28, part b), as well as further reaction(s) as described in column 5, line 17, through column 8, line 61. This separation channel contains electrodes for electrophoretic flow etc. as described in column 7, lines 15-23, as required in instant claim 13, part b). The enrichment channel may have waste outlet in a transition region which connects to the main electrophoretic channel as described in column 8, lines 24-61, which describes the now examined side channel embodiments of the instant invention as well as instant claim 13, a), v). Such a side channel for discharge is also described in column 9, lines 27-46. The main electrophoretic channel in the reference describes the separation channel for separating components as in instant claim 13, a), ii). This is summarized in the reference in column 11, lines 41-65, wherein electrophoretic media are listed, or, alternatively, electrophoretic channels with affinity media for sample component separation as summarized in column 18, lines 4-33, thus describing instant claim 13, a), ii). Valves, including membrane type fluid control means, generically are suggested for fluid control between channels and other regions in column 8, lines 52-56, thus suggesting various valves as required in instant claim 13, a), iv) and vi); and in instant claims 14

and 44 (three way for three way junctions as depicted in the Figures of the reference). The limitations of instant claims 24, 25, 50, and 51 are deemed described in the reference as the electrodes are utilized in electrophoretic practice which requires some immersion into the fluid in which the electrophoresis occurs as well as connection through the device for actuation. Each of the channels, chambers, etc. are described via lengthy connecting channels as well as supporting specific reactions which suggests that there is sufficient thermal isolation between elements of the devices to perform these reactions reasonably reliably thus supporting the inclusion of instant claims 22, 48, and 64 in the above list of rejected instant claims.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to practice the above listed instant claims as options which are suggested and motivated as species within the reference as discussed above and also apply to the other listed instant claims which describe variants in the reference some of which are noted above.

Claims 26, 27, 52, 53, 62, and 63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No claim is allowed.


Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instrument Examiner, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703)308-0196.

June 25, 2003

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER